User Manual

Micro AC Gear Motor with Speed Controller Kit
Ratio 1:3–1:100 | 13–433rpm | 6W/15W/25W/40W/90W

Features

Micro AC gear motor with speed controller.
Available power options: 6W, 15W, 25W, 40W and 90W.
Ten gear ratio options from 1:3 to 1:100.
Output speed options from 13rpm to 433rpm, depending on the selected gear ratio.
Aluminum motor housing with a built-in cooling fan.
Speed controller with rotary adjustment knob and run/stop switch.

Specifications

Motor Type:Micro AC Gear Motor
Power Options:6W/15W/25W/40W/90W
Gear Ratio:1:3/1:5/1:10/1:15/1:20/1:30/1:40/1:50/1:75/1:100
Output Speed:13/17/26/32/43/65/86/130/260/433rpm
Housing Material:Aluminum
Cooling Method:Built-in Fan
Speed Adjustment:Rotary Knob
Control Switch:Run/Stop Switch

Package Contents

1 × Micro AC Gear Motor
1 × Speed Controller

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6W Controller Kit

Kit Contents: 1 × Micro AC Gear Motor (6W) + 1 × Gear Head + 1 × Controller



Controller



Micro AC Gear Motor (6W)



Gear Head

Motor Parameters (6W)

	Ratio	1:3	1:5	1:10	1:15	1:20	1:30	1:40	1:50	1:75	1:100
6W Speed-Regulating Motor	Output rotational speed (r/min)	433	260	130	86	65	43	32	26	17	13
	Rated output torque (Nm)	0.13	0.21	0.42	0.64	0.73	1.1	1.46	1.83	2.74	3
	Horizontal load (kg)	0.7	1	2.1	3.2	3.7	5.5	7.3	9.2	13.7	15
	Vertical load (kg)	0.4	0.6	1.3	1.9	2.2	3.3	4.4	5.5	8.2	9

Kit Contents



Micro AC Gear Motor (6W) × 1



Gear Head × 1



Controller × 1

15W Controller Kit

Kit Contents: 1 × Micro AC Gear Motor (15W) + 1 × Gear Head + 1 × Controller



Controller



Micro AC Gear Motor (15W)



Gear Head

Motor Parameters (15W)

	Ratio	1:3	1:5	1:10	1:15	1:20	1:30	1:40	1:50	1:75	1:100
15W Speed-Regulating Motor	Output rotational speed (r/min)	433	260	130	86	65	43	32	26	17	13
	Rated output torque (Nm)	0.32	0.53	1.06	1.59	1.83	2.74	3.65	4.56	5	5
	Horizontal load (kg)	1.6	2.7	5.3	8	9.2	13.7	18	23	25	25
	Vertical load (kg)	1	1.6	3.2	4.8	5.5	8.2	11	13.7	15	15

Kit Contents



Micro AC Gear Motor (15W) × 1



Gear Head × 1



Controller × 1

25W Controller Kit

Kit Contents: 1 × Micro AC Gear Motor (25W) + 1 × Gear Head + 1 × Controller



Controller



Micro AC Gear Motor (25W)



Gear Head

Motor Parameters (25W)

	Ratio	1:3	1:5	1:10	1:15	1:20	1:30	1:40	1:50	1:75	1:100
25W Speed-Regulating Motor	Output rotational speed (r/min)	433	260	130	86	65	43	32	26	17	13
	Rated output torque (Nm)	0.48	0.8	1.59	2.39	3.11	4.67	5.87	7.16	8	8
	Horizontal load (kg)	2.4	4	8	12	15.6	23	29	35.8	40	40
	Vertical load (kg)	1.4	2.4	4.8	7	9.3	14	17.6	21	24	24

Kit Contents



Micro AC Gear Motor (25W) × 1



Gear Head × 1



Controller × 1

40W Controller Kit

Kit Contents:
1 × Micro AC Gear Motor (40W)
1 × Gear Head
1 × Controller



Controller



Micro AC Gear Motor (40W)



Gear Head

Motor Parameters (40W)

40W Speed-Regulating Motor	Ratio	1:3	1:5	1:10	1:15	1:20	1:30	1:40	1:50	1:75	1:100
	Output rotational speed (r/min)	433	260	130	86	65	43	32	26	17	13
	Rated output torque (Nm)	0.77	1.29	2.57	3.86	4.87	7.3	9.73	12.2	18.3	20
	Horizontal load (kg)	4	6.5	12.9	19.3	24	36.5	48.7	61	92	100
	Vertical load (kg)	2	3.9	7.7	11.6	14.6	22	29	36.6	55	60

Kit Overview

Gear Motor (40W) | Speed Controller | Gear Head

90W Controller Kit

Micro AC Gear Motor and Controller Set (90W)



Controller



Micro AC Gear Motor (90W)



Gear Head

Kit Contents

- 1 × Micro AC Gear Motor (90W)
- 1 × Controller

Motor Parameters (90W)

	Ratio	1:3	1:5	1:10	1:15	1:20	1:30	1:40	1:50	1:75	1:100
90W Speed-Regulating Motor	Output rotational speed (r/min)	433	260	130	86	65	43	32	26	17	13
	Rated output torque (Nm)	1.74	2.9	5.79	8.21	11	15.3	20	20	20	20
	Horizontal load (kg)	8.7	14.5	29	41	55	76.5	100	100	100	100
	Vertical load (kg)	5.2	8.7	17	24.6	33	45.9	60	60	60	60

Kit Components

Gear Motor (90W) | Controller | Gear Head

Variable Motor Parameters

	Power	Voltage	Frequency	Speed Control Range	Starting Torque	Rated Torque (N·M)		Rated Time	Capacitor
	W	V	Hz	rpm	N·M	90 r/min	1400 r/min	min	uF/VAC
Variable Motor	6	1PH110	50	90–1400	0.03	0.02	0.05	Continuous	3/250
			60	90–1680	0.02	0.02	0.04		
		1PH220	50	90–1400	0.03	0.02	0.05		0.8/450
			60	90–1680	0.02	0.02	0.04		
	15	1PH110	50	90–1400	0.07	0.04	0.12	Continuous	5/250
			60	90–1680	0.06	0.04	0.10		
		1PH220	50	90–1400	0.07	0.04	0.12		1.5/450
			60	90–1680	0.06	0.04	0.10		
	25	1PH110	50	90–1400	0.10	0.07	0.19	Continuous	6/250
			60	90–1680	0.09	0.07	0.16		
		1PH220	50	90–1400	0.10	0.07	0.19		2/450
			60	90–1680	0.09	0.07	0.16		
	40	1PH110	50	90–1400	0.16	0.10	0.29	Continuous	10/250
			60	90–1680	0.13	0.10	0.24		
		1PH220	50	90–1400	0.16	0.10	0.29		3/450
			60	90–1680	0.13	0.10	0.24		
	90	1PH110	50	90–1400	0.30	0.25	0.66	Continuous	20/250
			60	90–1680	0.25	0.25	0.55		
		1PH220	50	90–1400	0.30	0.25	0.66		6/450
			60	90–1680	0.25	0.25	0.55		

Note: 1PH = Single-phase. The parameters are for reference. Please refer to the actual product for details.

MOTOR + REDUCER PARAMETERS

THEORETICAL VALUES FOR REFERENCE ONLY

6W Speed-Regulating Motor

Ratio	1:3	1:5	1:10	1:15	1:20	1:30	1:40	1:50	1:75	1:100
Output Rotational Speed (r/min)	433	260	130	86	65	43	32	26	17	13
Rated Output Torque (Nm)	0.13	0.21	0.42	0.64	0.73	1.1	1.46	1.83	2.74	3
Horizontal Load (kg)	0.7	1	2.1	3.2	3.7	5.5	7.3	9.2	13.7	15
Vertical Load (kg)	0.4	0.6	1.3	1.9	2.2	3.3	4.4	5.5	8.2	9

15W Speed-Regulating Motor

Ratio	1:3	1:5	1:10	1:15	1:20	1:30	1:40	1:50	1:75	1:100
Output Rotational Speed (r/min)	433	260	130	86	65	43	32	26	17	13
Rated Output Torque (Nm)	0.32	0.53	1.06	1.59	1.83	2.74	3.65	4.56	5	5
Horizontal Load (kg)	1.6	2.7	5.3	8	9.2	13.7	18	23	25	25
Vertical Load (kg)	1	1.6	3.2	4.8	5.5	8.2	11	13.7	15	15

25W Speed-Regulating Motor

Ratio	1:3	1:5	1:10	1:15	1:20	1:30	1:40	1:50	1:75	1:100
Output Rotational Speed (r/min)	433	260	130	86	65	43	32	26	17	13
Rated Output Torque (Nm)	0.48	0.8	1.59	2.39	3.11	4.67	5.87	7.16	8	8
Horizontal Load (kg)	2.4	4	8	12	15.6	23	29	35.8	40	40
Vertical Load (kg)	1.4	2.4	4.8	7	9.3	14	17.6	21	24	24

40W Speed-Regulating Motor

Ratio	1:3	1:5	1:10	1:15	1:20	1:30	1:40	1:50	1:75	1:100
Output Rotational Speed (r/min)	433	260	130	86	65	43	32	26	17	13
Rated Output Torque (Nm)	0.77	1.29	2.57	3.86	4.87	7.3	9.73	12.2	18.3	20
Horizontal Load (kg)	4	6.5	12.9	19.3	24	36.5	48.7	61	92	100
Vertical Load (kg)	2	3.9	7.7	11.6	14.6	22	29	36.6	55	60

90W Speed-Regulating Motor

Ratio	1:3	1:5	1:10	1:15	1:20	1:30	1:40	1:50	1:75	1:100
Output Rotational Speed (r/min)	433	260	130	86	65	43	32	26	17	13
Rated Output Torque (Nm)	1.74	2.9	5.79	8.21	11	15.3	20	20	20	20
Horizontal Load (kg)	8.7	14.5	29	41	55	76.5	100	100	100	100
Vertical Load (kg)	5.2	8.7	17	24.6	33	45.9	60	60	60	60

Note: The above data are theoretical values for reference only. Actual parameters may vary depending on motor model, gearbox structure, and operating conditions.